May 2, 2006

Bob Jeffrey, Air Quality Specialist
Air Quality Policy and Planning Section
Montana Department of Environmental Quality
1520 E. Sixth Avenue
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Dear Bob:

RE: Comments Regarding BART Modeling Protocol

On March 15, 2006, the Montana Department of Environmental Quality (DEQ) issued a 45-day public comment period for the *Draft CALPUFF BART Modeling Protocol for Federal Mandatory Class I Areas*. Attached to this letter are Bison Engineering's (Bison) comments on the BART modeling protocol.

We extend our compliments to DEQ on a thorough and complete document. Clearly DEQ has extended considerable effort to define air dispersion modeling procedures and variables to be used in the BART program. However, we have some comments and suggestions that we think will further improve the document.

Thank you for the opportunity to provide comments about the proposed BART modeling protocol. If you have any questions about these comments, please call or e-mail.

Sincerely,
BISON ENGINEERING INC.

Harold W. Robbins
President

Comments

Draft DEQ CALPUFF BART Modeling Protocol

General and Policy Comments

Comment 1
Purpose

The protocol document is well written in that it discusses the overall BART program, provides definitions, procedures, etc. However, it is not completely clear for whom the document is written. For the most part, it appears the protocol is written as a record of the BART program itself and how DEQ is to implement the program and conduct dispersion modeling. The document appears to be much more than a modeling protocol. It provides information about other analyses and informs the reader of general requirements of the overall EPA BART program and (by extension) the Montana BART program.

As an example, the protocol contains several pages of definitions. These definitions are all apparently derived from the underlying BART rule itself (40 CFR 51, Subpart P). Many of the definitions, while necessary for the BART program as a whole, are not germane to defining a model protocol. Providing these definitions is not a concern on its face since they are federally driven. Including them in the protocol, on the other hand, leads one to believe that the protocol has taken on the role of a rule or requirement rather than an instruction set to someone about to embark on dispersion modeling analyses. It appears that most of these definitions are not necessary for model protocol purposes.

We use the definitions section not so much as a criticism of the language in the document, but rather what it implies. The protocol as a whole seems to imply that it is a document that has a specific regulatory status attached to it and thus holds a certain weight when accepting or rejecting DEQ's or any facility's modeling analyses. We assume this was not intended to be the case.

Along those same lines, in reading the document it is not always clear to whom this protocol is addressed and the regulatory nature of the suggestions (or, perhaps, requirements). For example, does this protocol intend to dictate the exact nature of all

modeling conducted under BART?[1] If the document is intended to specify modeling variables and techniques for which no variance is permitted (except for extraordinary circumstances), then the protocol should explicitly so state.[2]

We recommend that a new section be included which addresses the basic purposes and authorities being addressed. It should include:

i.) To whom the document applies.
ii.) The regulatory nature of the requirements.
iii.) The protocol's use (guideline, rule, standard, ?).
iv.) The regulatory authority for the protocol (unless its purpose is to inform the public of DEQ's intents and actions).

This would help the reader assess the intent and purpose of the protocol.

Comment #2
Legal Authority

As noted above, it would be helpful to clarify for the reader the legal authority and nature of the protocol itself. As an example, would one be in "violation" of a rule or guideline if one conducted dispersion modeling that was **not** consistent with the protocol but was otherwise compliant with federal and Montana (to be adopted) rules. The question to be answered here is what is the legal status of the document? Is it a document that the agency has issued to provide guidelines for itself in implementing rules and policy and, as such, has no direct requirements? Or, is it the agency's intent that this document be a flagship for future modeling and thus has, to some degree, the force of law? If the latter is correct, should this document be subject to adoption by the Board of Environmental Review?

Comment #3
Public Comment

We greatly appreciate DEQ's willingness to open the document for public review. It is not clear, on the other hand, the reason for or nature of the public comment period. Traditionally, a public comment period is required when the agency (DEQ or Board) is about to make a (significant) decision. Usually there is an underlying requirement for the public comment period that is found within a specific rule or statutory framework. That

[1] Some of the response to this question/comment is found beginning in the 4th paragraph of page 6 and extends to the top of page 7. Nonetheless, the information is relevant to the reader and thus would be made clearer if it were included in a new "purpose" section of the proposed protocol.
[2] Ibid.

does not appear to be the case for this proposed protocol. Is it the purpose of the public comment period to simply inform the public of DEQ;s intent regarding a specific program; i.e. BART implementation? Or, is there a regulatory meaning (i.e., an underlying requirement) to the public comment period?

Comment #4
Modeling Flexibility and Options – BART and Other Programs

Irrespective of the comments above, we would like to express our appreciation to DEQ for its efforts to identify the nature and procedures of the analyses to be conducted under the BART program. The information presented is extremely thorough and provides details of the justification and development of certain parameters and procedures.

While the proposed protocol clearly shows expected procedures and data requirements, we want to stress that these should not be the only procedures and data that could or should be used during the development of the BART program or any other future visibility analyses. We believe that it is important to continue to realize that the models in use are, of course, only models. They are a scientific/engineering tool that one can use to effect a desired outcome or to ensure that certain undesirable effects (visibility, e.g.) don't occur. The results of the models are not an answer or a standard unto themselves.

We would certainly agree that the developers of visibility-related dispersion modeling and post-processing options intend for the models to be as accurate in their predictions as possible. We applaud that effort. However, it is commonly understood that the models can not predict reality to any degree of certainty (within a few percentage points, e.g.). Therefore, selecting the appropriate modeling options such as meteorological data and CALPUFF variables (number of vertical layers, transition plume rise, wet deposition, dispersion coefficient, . . .) should not be considered as unwavering input. There are clearly many reasonable alternatives to those in the proposed protocol. These and other options should not be precluded from consideration regardless of the author of the modeling effort.

We strongly suggest that either the introduction or the recommended "purpose" section (comment #1 above) of the proposed protocol make note of this fact. It is reasonable to inform the public of what DEQ may agree are (de facto) acceptable modeling methods and variables, but to acknowledge that other inputs may be equally as acceptable.

Specific Comments

Comment #5
Grammatical Edit
Page 5

The second sentence in the first full paragraph is suggested to read:

> *In all cases, the CALPUFF ~~computer~~ model will be used with . . .*

Comment #6
BART-Eligible Modeling – Each Class I Area
Page 5

Bison is concerned with the general language used in this section because it does not specify that each Class I area within 300 km of the BART-eligible source(s) will be analyzed separately using the 98th percentile impact methodology. Furthermore, Bison believes that each Class I receptor within 300 km of the BART-eligible source(s) should be analyzed in the CALPUFF model and against the 98th percentile impact methodology.

Specifically, the second sentence in the third paragraph should be modified to read:

> *All Class I area~~s~~ receptors within 300 kilometers (km) of the facility with BART-eligible source(s) will be included in the modeling analysis.*

We believe that receptor(s) greater than 300 km from the BART-eligible source(s) should not be included in the model since CALPUFF is only recommended out to a maximum of 300 km.

Finally, the next two sentences in the third paragraph should read as follows:

> *The model will calculate the number of days per receptor with a delta-deciview (∆dv) great than or equal to 0.5 dv (contribution threshold) for each met year. If the daily 98th percentile value for any year or all met years (on a per receptor basis) combined is greater than this contribution threshold, then the source (or sources) is considered "subject to BART."*

Comment #7
Background Ozone Data
Page 46

On the CALPUFF input table (page 46), the background ozone from GNP and YNP is stated as monthly data but the data is recorded as hourly data (see Section 4.3.1, page 37) and should be used in the protocol as hourly.

Comment #8
CALPOST Inputs – Method 6
Page 51

Limiting one's post-processing options in CALPOST to Method 6 is far too restrictive. Bison is concerned that limiting the CALPOST variable MVISBK to "6" limits the BART-eligible source from performing a refined visibility analysis. There is no reason for this limitation. At minimum, Method 6 could be required for the first modeling step, "BART-Eligible Modeling," but it should not be required for the second modeling step, "BART-Subject Modeling." Bison would like to see language in the modeling protocol that allows other methods (for example, Method 2, Method 7, Method 7prime, etc.) to be used based on DEQ approval. This will allow the BART-eligible source to use other methods that might calculate more accurate visibility results and to use other methods, if accepted by DEQ, as they are developed and become available.